society for social responsibility in science

SSRS Newsletter

NO. 80 DECEMBER 1958

BRIGHTER THAN A THOUSAND SUNS"

ontroversial New History of Atomic Scientists Stirs Up Wide Discussion, Moral Questions Regarding Bomb Research Are Reopened

All of the old moral and ethical uestions posed at the time of the irst development of nuclear weapons re being raised again for consid-ration by some of the participants n the great debates of 1939, 1945 nd 1950, as the result of the pub-cation of a book entitled "Brighter han a Thousand Suns: A Personal istory of the Atomic Scientists." the German journalist Robert Jungk.

The book deals with the fateful ain of events and acts by which e science of nuclear physics s transformed, in the years fol-owing 1939, from a peaceful and nternational academic pursuit f pure knowledge, into a secret nd ferocious technology capable f decimating the human race.

"Brighter Than a Thousand Suns as published in Germany more than year ago. The German edition s reviewed, unfavorably, by Vic-or Paschkis, in SSRS Newsletter o. 65 (September 1957). Translated James Cleugh, it was published n England in June 1958, and in e United States in October 1958.

Since the book is severely crit-cal of the scientists who took art in the American atomic bomb esearch, several important Amer-can scientific magazines have chosen to have the book reviewed in their pages by one of the main participants in the drama. In the course of these reviews, the whole question of the morality and ethical rightness of the actions of the weapon developers has been opened again to public debate.

From the nature of the controversy thus far, it is plain that many other pioneer workers on atomic bombs will also be drawn into the argument, if only in self-defense. Thus, a public reexamination of the ethics of weaponeering is now in progress, a discussion of the greatest significance to all who are concerned about the social responsibility of scientists.

In this article, we shall report several of the early comments on Jungk's book by well-known reviewers. In a subsequent issue of this Newsletter, there will be more to say about the reactions of SSRS members and a discussion of some of the content of the book.

EDWARD CONDON ATTACKS

A harshly-worded critique of "Brighter Than a Thousand Suns" appeared in *Science*, December 26, 1958, over the signature of Edward U. Condon. Condon was an important actor in the great atomic drama, and he is described in Jungk's book. His review opens with these words:

"This is a thoroughly bad book which is so interestingly written that it is sure to be widely read and thus to make a large contribution to spreading confusion and erroneous views about its subject... It abounds in interesting anecdotes. But it is such a sloppy job that there is some serious error in nearly every one of the anecdotes about incidents of which I have personal knowledge. This leaves me quite without confidence in the correctness of the others. But the anecdotes are not important; they are just the spice that gulls the reader along so the author can slip in his thesis, with slanted writing in place of evidence."

Condon's review then summarizes the sections of the book which describe efforts by German scientists to prevent the construction of atomic bombs by Hitler's Germany during the second World War. According to Jungk, Werner Heisenberg and Carl von Weizsacker, heading German uranium research, pretended to be supporting the Hitler war effort, while actually steering their research toward uranium power production and away from the development of nuclear weapons.

Heisenberg, according to Jungk, tried to get Niels Bohr to influence American and British scientists to do the same; Bohr was suspicious and thought Heisenberg's veiled suggestions had a pro Hitler purpose.

On the contrary, Jungk said, American researchers were eager to make atomic bombs because the project was "technically sweet," and the consciences of the Americans were overcome by their desire to accomplish a brilliant technical achievement.

Condon attacks Jungk's interpretation both of the German and the American motivations.

Condon believes there is no satisfactory evidence that the Germans did sabotage atomic bomb development, and he brushes aside Jungk's quotations from letters by Heisenberg and others, regarding them as self-serving.

As to the motivations of the

This Newsletter is published by the Society for Social Responsibility in Science, an organization of scientists and engineers whose purpose, according to its constitution, is "to foster throughout the world a functioning cooperative tradition of personal moral responsibility for the consequences for humanity of professional activity, with emphasis on constructive alternatives to militarism;...to embody in this tradition the principle that the individual must abstain from destructive work and devote himself to constructive work, drawing the line between the two according to his own moral judgment;...to ascertain through open and free discussion the boundary between constructive and destructive work to serve as a guide for individual and group discussion and action..."

Statements made in the Newsletter do not necessarily represent official policies of the Society unless so stated. Signed articles are the responsibility of their authors; other material is the responsibility of the Editor. The SSRS Newsletter is not copyrighted; its material may be republished without obtaining permission, with exception of directly quoted material which has previously been published elsewhere. For permission to reprint this, see the original publisher.

SSRS President 1958-9:
Edward G. Ramberg
900 Woods Road
Southampton, Penna.

SSRS Secretary 1958-9:
John C. Schuder
2931 Carter Road
Trevose, Penna.

Newsletter Editor and Compositor:
Truman Kirkpatrick
663 Rochdale Circle
Lombard, Ill.

Newsletter Circulation Manager:
Franklin Miller, Jr.
Gambier, Ohio

American bomb-makers of 1941-1945, Condon utters a spirited defense. "As one who was deeply involved in the American program, I can say that everyone was primarily motivated by the fear that in Hitler's hands atomic bombs could lead him to achieve his goal of world domination...

"In the given situation, the highest morality, as we saw it, demanded devotion to the defeat of that terrible enemy. In the postwar period, most of the atomic scientists have given much of their time and energy to alerting their fellow-men to the catastrophic dangers for humanity involved in a Third World War--in preparation for which the major powers are spending such vast sums in their insane race toward doom. For such services to mankind, many of them have suffered and will suffer much more than those Germans who now are constructing a legend that their very real collaboration with Hitler was only a pretense."

Condon then criticizes Jungk for singling out the atomic scientists for moral condemnation. He calls this "wicked" and "specious" and says that all who fail to speak out against the immorality of war are fully as guilty.

Condon closes with a plea that some group of "really competent historians" will write a thorough history of the bomb and its social and political problems before it is too late--before memories fade and before the principal actors are all dead. Till then, he says, we must rely on Jungk's history for one version--but with caution.

BETHE PRAISES IT--QUALIFIEDLY

Almost opposite in tone is the review of "Brighter Than a Thousand Suns" by Hans Bethe in the December 1958 issue of the *Bulletin of the Atomic Scientists*. Bethe, professor of physics at Cornell University and authority on thermonuclear reactions, is one of the scientists who appears frequently in Jungk's book (17 references in the index).

Bethe's review is about as long as this Newsletter.

Bethe approves the major part of what Jungk has done. "On the whole," he says, "the presentation is fair, in contrast to some previous attempts at writing the same history. It gives a good picture of the psychological development of the scientists as well as of the scientific and political events. With many conclusions of the author one may disagree; but the author certainly has studied the subject with commendable thoroughness, and has come out with a readable account."

And Bethe specifically praises the account of the development of the atomic and hydrogen bombs, and of the struggle of conscience which took place at the time. He says of Jungk: "He must have done very earnest research and talked to many of the people concerned. As far as this reviewer can judge, both the motives and the actions of the various actors in the drama are correctly presented."

Bethe believes, on the basis of personal contact with German scientists, that Jungk is wrong about the "moral sit-down strike" which the German physicists allegedl conducted during World War II Granted that Heisenberg and vo Weizsäcker did not feel a grea sense of urgency about the project and granted that they and other were unenthusiastic about helpin Hitler's war machine. Nevertheless says Bethe, "and contrary to Jungk' presentation, ethical reasons playe only a minor role in their decisio not to push the development of th atomic bomb. That decision wa mainly based on what they believe to be a realistic appraisal of th difficulties: Heisenberg told thi reviewer [Bethe] that he had esti mated that it would be far beyon the capacity of Germany and, like wise, of the U.S., to develop a atomic bomb during the Second Worl War, even though he apparentl realized its theoretical possibility Had the project seemed "technicall sweet," the German scientists migh have had a very different attitude As it was, they regarded the uraniu project mostly as a device to sav their colleagues from being kille in the war, an aim in which the were successful. So work went ahea on the uranium project, as fas as the moderate government suppor permitted."

There are other points where Beth and Jungk disagree. According t Bethe, Jungk is entirely wrong abou American scientists' fear of fals charges of subversion, wrong abou military domination of pure researc wrong about several minor point of fact.

And Bethe denies Jungk's charg that American scientists, afte rejecting the H-bomb as immora when it looked technically impos sible, changed their minds afte the technical breakthrough an were seduced by the fact that th project was now "technically sweet. Not so, says Bethe. Instead, th motivation was the same as on th original uranium-bombs a decad earlier. Now (1950) it was th Russians. The H-bomb had becom possible and hence it had becom inevitable. "The Russians, soone or later, would be able to make i too--and all of us felt with Genera Omar Bradley that it would be im possible to have this weapon i the hands of the Russians but no in our own."

A large part of Bethe's revie speaks directly to the question o

ocial responsibility in science. ethe holds that scientists should OT refuse, as a group, to do de- tructive work. Instead: "I believe t is not only the privilege but he duty of the scientist, indi- idually and collectively, to make is opinion and vision known to the overnment—but it is for the gov- rnment, not the scientist, to make he last decision, which may well urn out contrary to his expressed pinion, and he should then abide y it."

Bethe's conclusion: "In short, here are many points on which I isagree with Jungk, and I have not ried to be complete in enumerating hem. Nevertheless, I strongly ecommend the book because it gives very vivid and quite fair picture f the history of atomic weapons and tomic scientists. It stimulates hought about these problems."

AMRINE REVIEW IS ANGRY

The Newsletter of the Federation f American Scientists carried a hort and angry review of "Brighter han a Thousand Suns" in its issue of October 27, 1958. Science writer Michael Amrine says the book is a 'mistake" and that its assumptions re "dangerous" and sometimes "180 degrees off." He says: "Some of the things in this book are so and some are junk that someone has unloaded on Jungk, and some are Jungk that he is unloading on the reader."

Amrine has nothing to say about the book which is either favorable or neutral.

Amrine's final paragraph makes he following judgment: "It is im- portant for the reader to know that Jungk is a conscientious objector, nd this reviewer finds the omission f this fact from the book less than candid. When a man writes at length bout the moral standards of others, e have a right to be told on what morality the judge himself stands. o we find this book lacking in that t gives hundreds of value judgments n scientists, while the judgments hemselves are based on questionable factual information and the author's alues are not explicitly stated."

Amrine pleads that Conant, Oppen- eimer, Szilard, Groves and Teller hould tell their versions of the tory of nuclear bomb development.

WILSON REVIEW IS NEGATIVE

The December 1958 *Scientific American* magazine carried a long review by Robert R. Wilson, who headed the Experimental Nuclear Physics Division at Los Alamos during the war and served as chief administrator of the wartime community.

"Reading this book was an emotional experience for me," said Wilson. "I found many old doubts, questions and uncertainties awakened. Sometimes Jungk touched old sores (he also succeeded in opening a few new ones), but usually I was moved not by remorse but by indignation."

Wilson has some things to say in praise of the main outlines of Jungk's work. "There is little new in the volume except for the anecdotes," he says; "what is new is the synthesis of many stories, the tying up of many strands—a job so artfully done that the account reads like a novel and is as exciting as a murder mystery. What is also new is the interpretation of events and the analysis of the actors in the atomic drama...He has picked the right people and the right places at the right time to portray the beginnings of modern physics and modern physicists. He also shows a remarkable talent for discussing in adult but simple language some of the actual physics that was involved."

And: "it is all to the good that Jungk comes to grips with the heart of the matter: the moral dilemma faced by those scientists attending the birth of the bomb."

But the main tone of the review is sharply critical: "Jungk's subject is too big for him; his conclusions are frequently irresponsible, sensational and in questionable taste...grossly unfair...profound errors of judgment..."

Wilson objects to Jungk's inaccuracies, of which he names several.

And he is unable to accept the idea that the German scientists went on a moral sit-down strike. He discusses this, cites the counter-evidence of Samuel Goudsmit's *Alsos*, and guesses that the German failure to get the atom bomb was due neither to ineptitude nor moral scruples but to the fact that the German high command believed that rocket development had a better chance of being useful than the atom bomb, and so political and economic support was given to the V-weapons.

Wilson believes Jungk is quite unfair to American physicists in blaming them for developing the bomb. "In the first place," he says there is no single-minded group which may be called 'American physicists.' Physicists do not look alike or think alike."

But Wilson's main argument is that the American scientists *did* try to apply ethics.

"One should recall the atmosphere when work on the bomb began. The Germans were successful on all fronts; they were ruthless; there was a good chance that they would win the war. We knew that they were working on nuclear energy. I held pacifist views at the time, but in the light of the Nazi danger I felt that I had little moral choice. I suspect that the lines of the children of light and of the children of darkness were drawn as clearly as they ever will be. Neutrality would have been a selfish luxury."

Wilson concludes: "Although I have criticized Jungk's book, I respect his motives...For me the question is: Are scientists to attain the heightened sense of moral values that will allow them to determine the direction of these developments with humanistic and humanitarian ends in view?...I suspect that civilization will best be served by a true fusion--or at least a close mutual understanding—of science, the humanities and politics...Jungk has struck out boldly, if not carefully, in this direction by his provocative analysis of this case history of science, scientists and civilization."

LAURENCE IS HOSTILE

William L. Laurence is the ace science writer of the *New York Times*. He was the only journalist at Alamagordo; he was on the Nagasaki bombing run; on many occasions he has been almost "the official journalist". His long review in the October 12 *New York Times Book Review* warns his readers that Jungk's book is completely worthless or worse.

Laurence attacks three points.

When Jungk accuses the American scientists of selling their souls to the devil of technology, Laurence replies that "as every fair-minded person knows, or should know, it was just because the atomic scientists of the U.S., Britain, France and the rest of the free world passionately believed in the dignity of man and the commands of his Creator that they found themselves compelled to concentrate their knowledge and skills to prevent Hitler from becoming the sole possessor of the atom bomb."

And Laurence strongly defends the American decision to drop the atomic bomb on Japan.

But most of his fire is reserved for Jungk's claim of moral scruples for the German physicists. Laurence describes at length a group of recordings of the conversation of captured German scientists after they first heard of the Hiroshima explosion. These recordings, made secretly without the knowledge of the scientists, prove that the Germans had tried to make an atomic bomb and had failed, and had convinced themselves, in an arrogant belief in their own superiority, that the task was scientifically impossible; they refused to believe the news at first, and they were shocked to learn that Allied scientists had accomplished what they thought impossible, Laurence says. "And," he goes on, "the record also shows that it was only after they had recovered from their shock, that they began developing the legend of their refusal to work on atom bombs because of moral scruples."

JUNGK REPLIES TO LAURENCE

On November 9 the *New York Times* printed a reply to Laurence by Jungk. Jungk says he tried to get permission to consult the records and that the War Office in London, which holds them, was not letting anyone listen. Jungk says his version comes from information supplied by a great number of scientists, and that for Laurence to call it "wholly untrue" is unscientific and unfair as long as the record is not public.

Underneath Jungk's letter was a reply by Laurence, saying the recordings were described by Prof. Samuel Goudsmit, "one of our most respected physicists, and there is no earthly reason to doubt his word."

Laurence also quotes Erich Bagge, whose diary is stated to corroborate Goudsmit's account.

For the SSRS, the book presents a very real problem. Some of our favorite ideas are defended in the book, but in the same breath with misstatements of fact which may antagonize some readers. While apparently on our side, it may do us more harm than good.

We shall continue the discussion of "Brighter Than a Thousand Suns" in the next issue of this Newsletter.

--T.K.

EMPLOYMENT

These ads are not limited to SSRS members; the service is available to any scientist who has job problems related to conscience or to the use of his professional skill for constructive purposes.

All correspondence regarding the printing of ads and replies to ads should be sent to the Occupation Division Chairman, M. Jane Oesterling, Woman's Medical College, Philadelphia 29, Penna. When a name is given in the ad for a direct reply, a copy of the correspondence should be sent to Jane Oesterling if possible.

SITUATION OPEN

DEAN, COLLEGE OF ENGINEERING, Addis Ababa, Ethiopia. An American engineer is sought, preferably a civil engineer, forty or more years old. Salary between $500 and $600 per month plus free house, official car, travel expenses paid for two. Three year contract, starting July 1959.

SITUATIONS WANTED

BIOCHEMIST-NUTRITIONIST (Ph.D., 1952 U. of Illinois) 6 years of teaching and research in a Southern medical school; publications; seek teaching or research position; need to relocate primarily because of my pro-integration AFSC activities.

CLINICAL PSYCHOLOGIST (Ph.D., Sigma Xi), age 59, wants to share practice with M.D. or group interested in biosocial, individual, and family viewpoint; SW or coast preferred.

ELECTRONIC SCIENTIST (B.S. 1941, CCNY premedical training) 15 years experience in vacuum tube electronics: testing, design, trouble shooting, project supervision and planning; seeks position in applying electronics to constructive scientific endeavor: physical, chemical or biological fields.

MECHANICAL ENGINEER, B.S., working for M.S.; 15 years experience; prepared complete calculation methods for pipe stresses, rotating disc stresses and shrink fits, turbine flow paths, and formed cutting tools. Taught engineering college 3 years. Age 42, single. Seeks non-military position, Eastern U.S. preferred.

PSYCHOLOGIST (Ph.D. Germany) naturalized citizen, available for teaching regular college courses or social psychology on graduate level.

SSRS Newsletter No. 80 December 1958
Society for Social Responsibility in Science
Gambier, Ohio

Sec. 34.66 P.L.&R.
U.S. POSTAGE
PAID
GAMBIER, O.
Permit No. 43

Mr. Herbert W. Berky
146 Spring St.
Bluffton, Ohio

M50g

POSTMASTER: Form 3547 Requested